UVES Thorium-Argon Atlas

Setup: BLUE Echelle, CD#2 @ 390 nm

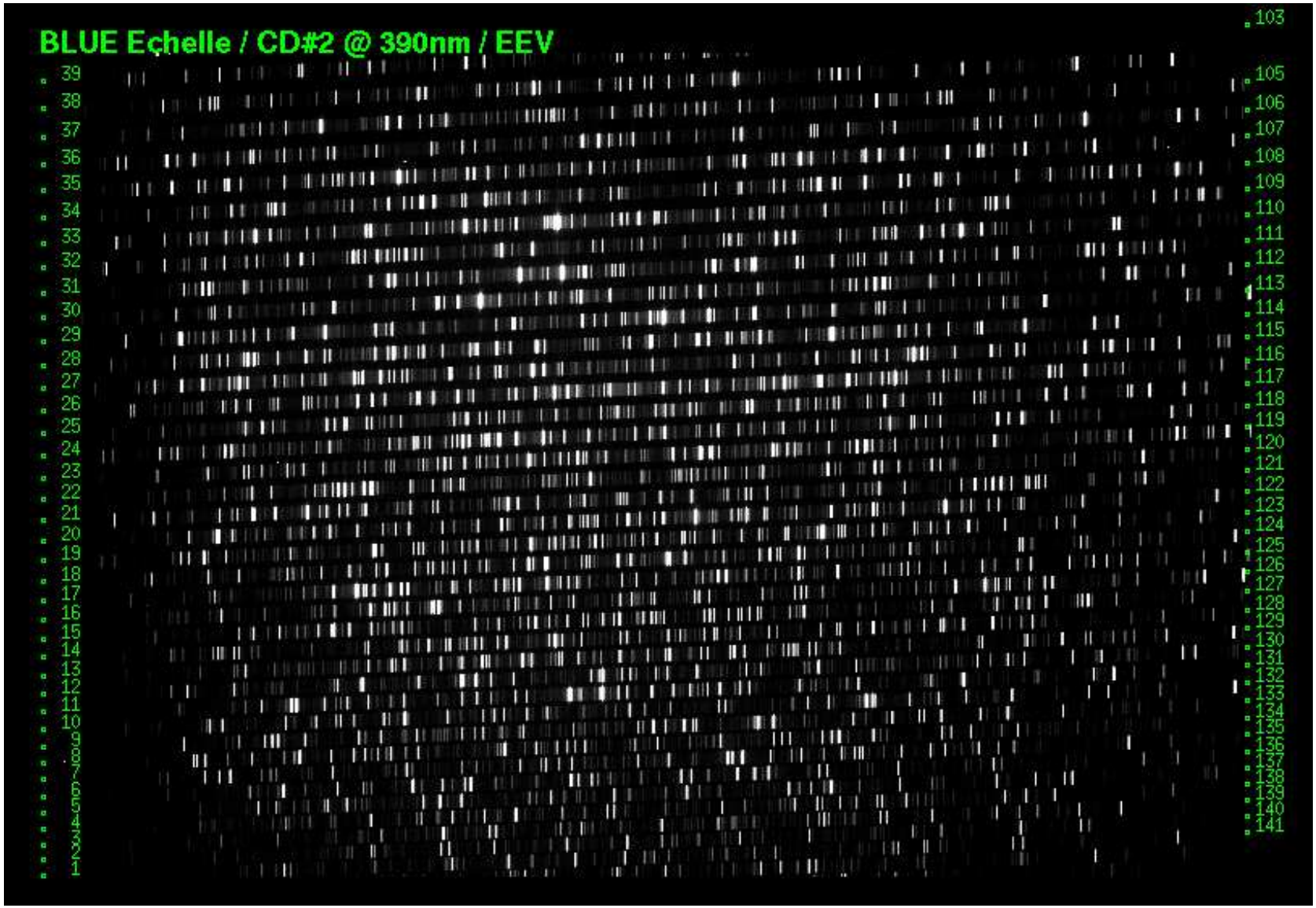
V0.1 2000-05-14 by A.Kaufer, ESO-Paranal

Contents:

- 2D image of the Thorium-Argon frame with
  - the instrument setup identified on the top,
  - the running number of the (extracted) order to the left,
  - the absolute order number to the right.
- plots of all extracted 1D orders with
  - the extracted order number, the absolute order number, and the instrument setup identified on the top,
  - the extracted Thorium-Argon spectrum in x-pixel coordinates
  - the lines identified by their wavelength (in blue)
- resolution plot as derived from the extracted Thorium-Argon spectrum

Information:

- The Thorium-Argon exposures have been taking with the following settings:
  - slitwidth: 0.5 arcsec
  - exposure time: 15 secs
  - CCD setup: readout-speed 225kHz, low gain, binning 1x1
- The CCD frames have been extracted and flipped/transposed with the SPLIT/UVES tool available in the MIDAS context `uves`:
  - $\rightarrow$ the overscan regions are removed
  - $\rightarrow$ the orders are oriented to have a positive slope
  - $\rightarrow$ wavelengths are increasing from bottom to top


BLUE Echelle / CD#2 @ 390nm / EEV

row #1 / order #141 / BLUE Echelle / CD#2 @ 390nm / EEV
intensity (ADU)
position (pixel)
3330.477
3325.121
3309.365
3307.228
3305.304
3304.238
3301.651
3293.641
0
1000
2000
3000

row #2 / order #140 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
3350.924
3348.768
3337.870
3334.604
3333.129
3330.477
3329.728
3327.193
3325.121
3324.753

row #3 / order #139 / BLUE Echelle / CD#2 @ 390nm / EEV
3376.436
3374.975
3373.493
3360.998
3358.602
3354.180
3351.229
3350.924
3348.768
3000
2000
1000
0
intensity (ADU)
0
1000
2000
3000
position (pixel)

row #4 / order #138 / BLUE Echelle / CD#2 @ 390nm / EEV
intensity (ADU)
position (pixel)
3000
2000
1000
0
0
1000
2000
3000
3372.823
3373.493
3374.975
3376.436
3378.573
3380.860
3385.532
3387.921
3388.531
3392.035
3396.728
3397.516
3398.545

row #5 / order #137 / BLUE Echelle / CD#2 @ 390nm / EEV
intensity (ADU)
position (pixel)
0
1000
2000
3000
3423.990
3422.656
3421.210
3417.498
3413.013
3408.750
3405.558
3402.695
3401.711
3398.545
3397.516
3396.728
3392.035
3388.531

row #6 / order #136 / BLUE Echelle / CD#2 @ 390nm / EEV
intensity (ADU)
position (pixel)
0
1000
2000
3000
3451.702
3442.579
3439.399
3437.307
3436.727
3435.977
3433.999
3428.999
3423.990
3422.656
3421.210
3417.498
3413.013

row #7 / order #135 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
3476.747
3471.219
3469.921
3469.345
3468.220
3465.765
3464.127
3462.851
3457.069
3454.095
3451.702
3442.579
3439.399
3437.307
3436.727
3435.977

row #8 / order #134 / BLUE Echelle / CD#2 @ 390nm / EEV
intensity (ADU)
position (pixel)
0
1000
2000
3000
3498.621
3496.811
3495.700
3491.536
3489.508
3486.551
3480.506
3480.053
3479.685
3479.173
3478.232
3476.747
3471.959
3471.219
3469.921
3469.345
3468.220

row #9 / order #133 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
3526.634
3523.506
3521.270
3520.000
3518.404
3514.300
3511.157
3509.779
3503.786
3501.867
3498.621
3496.811
3495.700
3491.536
3486.551

row #10 / order #132 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
3559.508
3555.014
3554.306
3551.402
3549.596
3548.514
3547.338
3545.845
3545.596
3544.018
3543.148
3542.498
3539.587
3536.011
3535.320
3531.451
3530.515
3528.412
3526.634
3523.506
3521.270
3520.000
3518.404
3514.388

row #11 / order #131 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
3584.176
3582.355
3581.608
3575.322
3569.820
3567.264
3565.030
3564.333
3563.376
3562.193
3561.781
3561.030
3559.508
3557.465
3556.904
3555.705
3555.014
3554.306
3551.402
3549.596
3548.514
3547.338
3545.845
3545.596
3544.018

row #12 / order #130 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
3612.428
3612.867
3608.378
3606.522
3605.879
3604.682
3603.204
3601.034
3600.432
3599.724
3598.120
3595.618
3594.986
3592.779
3591.452
3589.750
3588.441
3584.176
3583.102
3582.355
3581.608
3575.322
3569.820
3567.264

row #13 / order #129 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
3642.249
3639.833
3638.319
3635.943
3634.582
3626.939
3625.628
3623.773
3622.795
3622.138
3621.119
3620.839
3618.363
3617.672
3615.850
3615.133
3612.867
3612.428
3608.378
3606.522
3605.879
3604.682
3598.120

row #14 / order #128 / BLUE Echelle / CD#2 @ 390nm / EEV
intensity (ADU)
position (pixel)
0
1000
2000
3000
3663.202
3661.621
3660.437
3659.629
3658.809
3656.694
3655.278
3654.462
3652.168
3649.250
3645.707
3643.512
3642.249
3639.833
3639.447
3638.644
3638.319
3635.943
3634.582
3625.628

row #15 / order #127 / BLUE Echelle / CD#2 @ 390nm / EEV
intensity (ADU)
position (pixel)
0
1000
2000
3000
3694.178
3692.566
3691.876
3691.411
3690.623
3687.984
3682.486
3680.447
3680.061
3679.710
3679.134
3678.480
3678.270
3678.048
3675.567
3675.137
3674.903
3674.014
3673.793
3673.260
3672.300
3671.539
3669.968
3669.640
3668.139
3666.981
3663.202
3662.750
3661.621
3660.437
3659.629
3658.809
3656.694
3655.278

row #16 / order #126 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
3729.309
3727.902
3724.517
3721.825
3721.215
3719.836
3719.434
3718.207
3712.559
3711.623
3711.304
3709.862
3706.767
3704.861
3703.774
3703.230
3700.978
3699.880
3698.106
3697.743
3695.289
3694.178
3692.566
3691.876
3691.411
3690.623

row #17 / order #125 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
3758.467
3755.212
3754.593
3752.569
3751.022
3749.084
3747.539
3745.970
3745.659
3742.923
3741.183
3737.889
3737.512
3733.672
3732.985
3730.748
3730.368
3729.309
3727.902
3726.724
3725.393
3724.517
3721.825
3721.215
3719.836
3719.434
3718.207

row #18 / order #124 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
3789.167
3785.600
3783.296
3780.966
3776.271
3772.650
3771.370
3770.056
3769.585
3767.901
3765.270
3762.933
3761.469
3758.467
3757.694
3756.294
3755.212
3754.593
3752.569
3751.022
3749.084
3747.539
3745.970
3745.659
3742.923
3741.183
3737.889

row #19 / order #123 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
3818.685
3815.566
3813.067
3810.995
3809.490
3807.874
3805.820
3803.984
3803.075
3800.198
3798.103
3797.207
3795.385
3794.698
3792.374
3790.294
3790.355
3789.167
3785.600
3784.575
3783.296
3780.966
3776.271
3772.650
3771.370
3770.540
3770.056

row #20 / order #122 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
3850.570
3846.887
3845.420
3842.896
3841.960
3840.800
3839.700
3837.875
3836.572
3834.679
3833.086
3831.640
3830.773
3830.060
3828.384
3826.830
3826.369
3825.700
3825.111
3823.067
3822.146
3821.431
3820.792
3818.685
3815.566
3813.067
3810.995
3809.490
3807.874
3803.984
3803.075

row #21 / order #121 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
3828.384
3830.773
3834.679
3836.572
3837.875
3839.700
3840.800
3841.960
3842.896
3845.420
3846.887
3850.570
3852.135
3854.510
3856.354
3859.839
3862.421
3863.406
3866.909
3868.530
3869.663
3872.722
3873.148
3873.474
3873.822
3874.243
3874.862
3875.373
3879.644

row #22 / order #120 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
3911.909
3903.102
3901.662
3900.878
3898.437
3895.419
3893.652
3891.970
3886.916
3884.822
3879.644
3878.662
3875.373
3874.862
3874.243
3873.822
3873.474
3873.148
3872.722
3869.663
3868.530

row #23 / order #119 / BLUE Echelle / CD#2 @ 390nm / EEV
intensity (ADU)
position (pixel)
0
1000
2000
3000
3948.030
3947.331
3946.100
3944.270
3938.614
3934.274
3933.661
3932.911
3932.550
3931.256
3929.669
3928.620
3925.720
3925.093
3923.799
3919.023
3918.070
3917.269
3916.417
3914.760
3913.081
3911.909
3903.102
3901.662
3900.878
3898.437
3895.419

row #24 / order #118 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
3928.620
3929.669
3932.550
3932.911
3938.614
3942.073
3943.394
3944.270
3945.135
3946.100
3947.331
3947.504
3948.030
3948.979
3950.395
3951.515
3952.740
3955.170
3955.890
3956.690
3959.300
3960.269
3961.521
3962.419
3964.030
3967.392
3969.002
3969.664
3972.154
3972.639
3973.196
3974.480
3979.360
3980.089

row #25 / order #117 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
4014.716
4013.870
4012.495
4011.739
4009.057
4008.210
4007.018
4005.092
4003.308
4001.893
4001.058
4000.281
3998.733
3997.865
3996.668
3996.061
3994.549
3991.730
3990.492
3988.599
3987.206
3984.879
3981.106
3980.089
3979.360
3976.414
3974.480
3973.196
3972.639
3972.154
3969.002
3967.392

row #26 / order #116 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
4049.944
4044.418
4043.394
4042.910
4041.203
4039.864
4036.565
4036.048
4035.470
4032.595
4030.842
4030.292
4029.825
4029.657
4027.009
4026.147
4025.655
4024.802
4023.338
4022.076
4020.354
4019.129
4018.099
4017.063
4014.716
4013.870
4012.495
4011.739
4009.819
4009.057
4008.210
4007.018
4005.092
4003.308
4001.893
4001.058
4000.281

row #27 / order #115 / BLUE Echelle / CD#2 @ 390nm / EEV
intensity (ADU)
position (pixel)
0
1000
2000
3000
4085.434
4085.042
4083.468
4082.400
4081.367
4080.670
4079.600
4076.960
4076.640
4075.503
4073.856
4072.400
4072.010
4070.238
4069.461
4069.201
4067.450
4064.331
4063.407
4059.253
4053.527
4052.940
4050.887
4049.944
4048.287
4044.418
4043.394
4042.910
4041.203
4039.864
4036.565
4036.048
4035.470
4033.862
4032.595
4030.842

row #28 / order #114 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
4115.759
4116.713
4112.754
4110.826
4109.323
4108.419
4107.853
4107.050
4105.337
4102.617
4103.910
4100.341
4097.747
4097.150
4096.076
4094.747
4089.137
4088.726
4087.284
4086.520
4085.434
4085.042
4083.468
4082.400
4081.367
4080.670
4079.600
4076.960
4076.640
4075.503
4073.856
4072.400
4072.010
4070.238
4069.461
4069.201
4067.450

row #29 / order #113 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
4100.341
4103.910
4105.337
4107.050
4107.853
4108.419
4109.323
4110.826
4112.754
4115.759
4116.713
4123.572
4127.412
4128.650
4131.002
4132.753
4134.068
4135.480
4138.040
4140.235
4142.701
4143.649
4148.181
4149.987
4156.110

row #30 / order #112 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
4194.936
4193.016
4190.712
4191.028
4184.137
4181.803
4179.715
4178.059
4170.533
4168.634
4165.766
4164.179
4162.509
4161.738
4158.590
4157.395
4156.110
4154.720
4149.987
4148.181
4142.701
4143.649

row #31 / order #111 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
4178.059
4179.253
4179.715
4181.883
4184.137
4189.561
4190.712
4191.028
4192.362
4193.016
4194.936
4198.317
4200.675
4201.846
4204.041
4208.411
4208.890
4210.004
4210.923
4213.067
4214.828
4216.069
4217.450
4218.690
4220.068
4222.670
4223.440
4226.726
4227.387
4228.180
4229.147
4229.890
4230.426

row #32 / order #110 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
4210.923
4213.067
4214.828
4217.450
4218.690
4220.068
4222.670
4223.440
4223.593
4226.299
4226.726
4227.387
4228.180
4229.147
4229.890
4230.426
4235.463
4237.230
4241.094
4247.988
4248.390
4250.314
4251.185
4253.538
4255.237
4256.253
4257.496
4258.520
4259.361
4260.333
4266.286

row #33 / order #109 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
4250.314
4255.237
4256.253
4257.496
4258.520
4259.361
4260.333
4266.286
4269.942
4272.168
4272.874
4273.357
4274.024
4275.190
4276.807
4277.550
4278.323
4280.568
4281.067
4281.414
4282.041
4282.900
4283.518
4286.228
4288.668
4291.809
4294.719
4297.306
4297.990
4299.635
4299.839
4300.100
4300.660
4307.176
4308.122
4309.250

row #34 / order #108 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
4349.072
4348.110
4346.436
4345.167
4344.326
4342.444
4340.895
4338.107
4337.272
4335.709
4335.337
4333.560
4332.060
4330.843
4328.915
4325.274
4320.126
4318.415
4315.254
4314.319
4312.997
4311.799
4309.940
4309.250
4308.600
4308.122
4307.176
4306.366
4304.956
4300.660
4300.100
4299.839
4297.990
4297.306

row #35 / order #107 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
4391.110
4385.080
4381.860
4381.402
4378.176
4375.960
4374.785
4374.124
4371.360
4370.760
4369.875
4369.494
4365.930
4363.794
4362.070
4359.372
4358.320
4354.482
4353.448
4352.612
4352.230
4349.072
4348.110
4346.436
4345.851
4345.167
4344.326
4343.951
4342.444
4340.895
4338.107
4337.277
4335.709
4335.337
4333.560
4332.060

row #36 / order #106 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
4370.760
4371.360
4374.124
4374.785
4375.960
4378.176
4379.740
4381.402
4381.860
4384.656
4385.080
4387.787
4391.110
4392.974
4393.759
4397.915
4401.020
4401.581
4402.927
4404.910
4408.482
4408.883
4412.739
4412.893
4414.486
4416.844
4420.900
4422.048
4423.720
4426.010
4430.180
4431.020

row #37 / order #105 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
4474.770
4469.525
4465.340
4463.666
4461.527
4461.241
4460.530
4458.001
4452.565
4450.793
4448.880
4447.834
4445.901
4445.315
4445.033
4443.665
4441.608
4440.866
4439.480
4439.123
4438.746
4433.830
4432.963
4432.252
4431.020
4430.180
4426.010
4423.720
4422.048
4420.900

row #38 / order #104 / BLUE Echelle / CD#2 @ 390nm / EEV
position (pixel)
intensity (ADU)
0
1000
2000
3000
4515.118
4513.680
4513.223
4510.733
4505.216
4502.950
4499.983
4498.940
4498.550
4497.914
4493.333
4490.990
4489.664
4488.680
4487.495
4486.897
4483.346
4482.169
4481.830
4480.822
4479.637
4478.595
4475.221
4474.770
4469.525
4463.666
4461.527
4461.241
4458.001

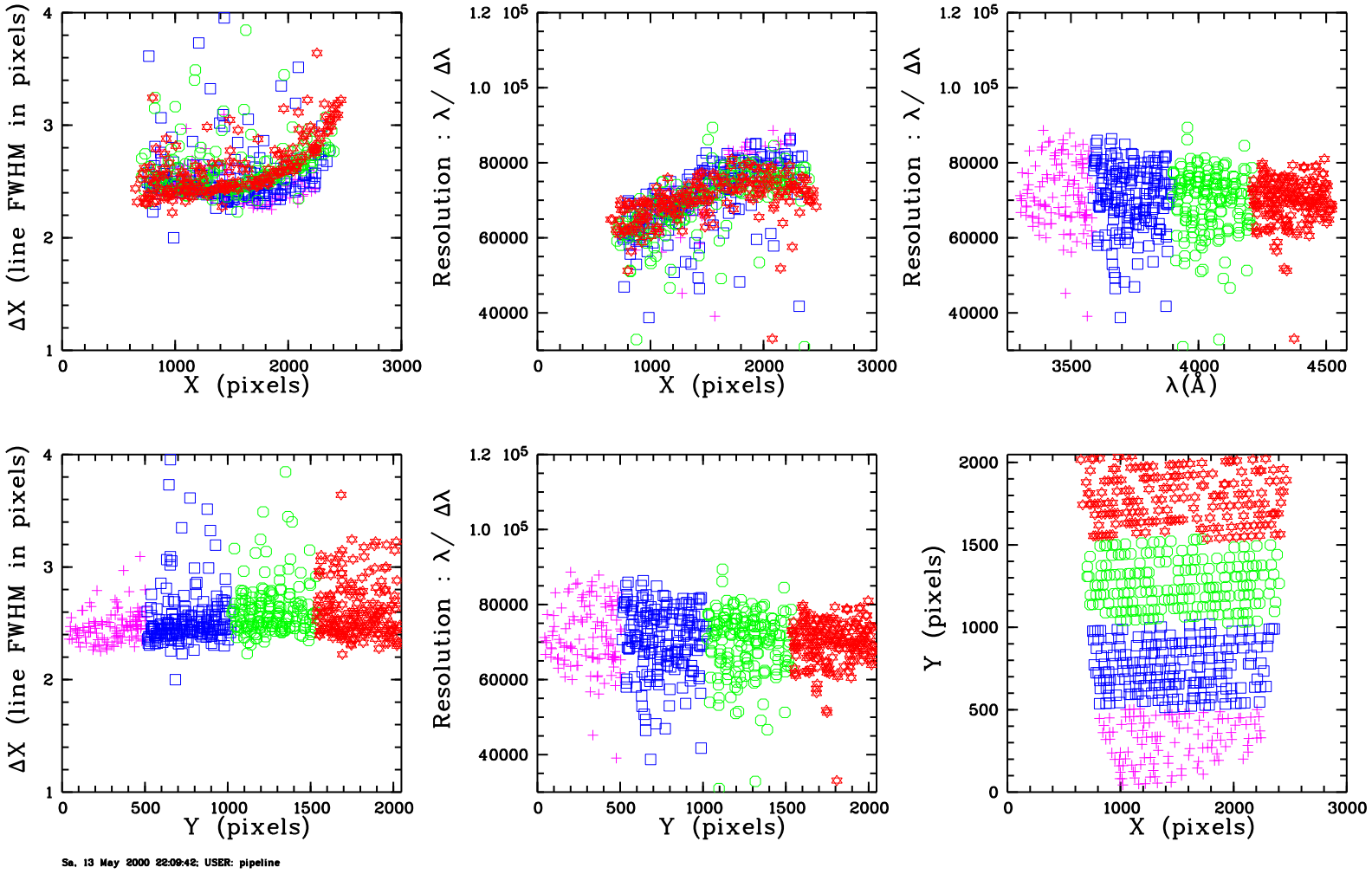
row #39 / order #103 / BLUE Echelle / CD#2 @ 390nm / EEV
intensity (ADU)
position (pixel)
0
1000
2000
3000
4530.570
4522.323
4521.194
4519.259
4515.118
4513.680
4513.223
4510.733
4506.494
4505.216
4502.950
4499.983

Central wavelength: 390.0 nm, slit: 0.5 arcsec, CCD: EEV, 9.8 °C

Filename : UVES_DIC1B_CAL134.fits, Observ. date: 2000-05-13T21:07:51

Median(DX) = 2.507 pix , Mean(DX) = 2.6 pix , σ(DX) = 0.6 pix

Median(RES) = 70723.984 , Mean(RES) = 69799.898 , σ(RES) = 9403.0



Sa, 13 May 2000 22:09:42; USER: pipeline